IN THE CLAIMS

Please amend the claims as follows:

1.-82. (Canceled)

83. (Currently Amended) A method of detecting the presence or measuring the quantity of a target analyte in a sample, comprising:

positioning the sample on a sensor, the sensor including a working electrode, a reference electrode and a counter electrode on a substrate, the reference electrode consisting of a single layer of an electrically conductive material, a self-assembly monolayer being positioned on at least one of the electrodes, ~~and molecules in~~ the self-assembly monolayer including biotinylated thiol molecules that include a sulfur that is bonded directly to ~~the~~ at least one electrode selected from a group consisting of the working electrode, the reference electrode and the counter electrode;

conducting an analysis of the sample that includes controlling a potential difference between the reference electrode and the working electrode while measuring a current flowing through the working electrode, wherein

the potential is controlled so as to cause a redox reaction between a component in the sample and the working electrode, and

the current through the working electrode is balanced by a current through the counter electrode; and

employing the measured current to determine the presence or quantity of a target analyte in the sample.

84. (Previously presented) The method of claim 83, wherein the sensor includes an adhesive underneath each of the electrodes, the adhesive allowing for better adhesion of each of the electrodes to the substrate.

85. (Previously presented) The method of claim 83, wherein the sample is a biological fluid containing macromolecules.

86. (Previously presented) The method of claim 83, wherein the sample is a biological fluid containing ionic molecules or atoms.

87. (Previously presented) The method of claim 83, wherein the substrate is selected from the group consisting of silicon, gallium arsenide, plastic and glass.

88. (Previously presented) The method of claim 83, wherein the substrate comprises a material made out of silicon.

89. (Previously presented) The method of claim 83, wherein the electrically conductive material is selected from the group consisting of gold, aluminum, chromium, copper, platinum, titanium, nickel and titanium.

90. (Previously presented) The method of claim 83, wherein the electrically conductive material is gold.

91. (Previously presented) The method of claim 84, wherein the adhesive is selected from the group of consisting of chromium, titanium, and glue.

92. (Previously presented) The method of claim 84, wherein the adhesive includes chromium.

93. (Previously presented) The method of claim 83, wherein the substrate further includes a well structure containing at least one of the electrodes.

94. (Previously presented) The method of claim 83, wherein each of the electrically conductive electrodes consists of a single layer of gold.

95. (Previously presented) The method of claim 83, further comprising: calibrating the sensor with a first calibrating solution that contains a known amount of a target analyte to be detected and a second calibrating solution that contains an undetectable amount of the target analyte to be

detected.

96.-97. (Canceled).

98. (Previously presented) The method of claim 83, wherein a surface on at least one of the electrodes is modified for anchoring molecules on the surface.

99. (Previously presented) The method of claim 83, wherein the electrodes are in contact with the substrate.

100. (Previously presented) The method of claim 83, wherein the electrically conductive material associated with each electrode extends from each electrode to an electrical pad positioned on the substrate.

101. (Previously presented) The method of claim 83, wherein each of the electrodes is constructed of the same material.

102. (Previously presented) The method of claim 91, wherein the reference electrode and the counter electrode each have a shape that is different from a shape of the working electrode.

103. (Previously presented) The method of claim 83, wherein the sample is a liquid.

104. (Previously presented) The method of claim 83, wherein positioning the sample on the sensor includes forming a drop of the sample over the electrodes.

105.-107. (Canceled)

108. (Previously presented) The method of claim 83, wherein the potential difference between the working electrode and the reference electrode is controlled by application of a current through the counter electrode.

109.-111. (Canceled).

112. (Previously presented) The method of claim 83, wherein the sensor consists of the working electrode, counter electrode and reference electrode positioned on the substrate.

113. (Previously presented) The method of claim 83, wherein the sensor occupies an area of 160 μm^2 to 25 mm^2.

114. (Previously presented) The method of claim 83, wherein the analysis is a cyclic voltammetry analysis.

115. (Previously presented) The method of claim 83, wherein the analysis is an amperometric analysis.

116. (Previously presented) The method of claim 83, wherein controlling the potential difference between the working electrode and the reference electrode includes sweeping the potential difference between the working electrode and the reference electrode across a range of values.

117. (Previously presented) The method of claim 83, wherein the analysis includes measuring the current between the counter electrode and the working electrode while sweeping the potential difference between the working electrode and the reference electrode across a range of values.

118. (Previously presented) The method of claim 83, wherein the reference electrode, the working electrode and the counter electrode each consist of a single layer of an electrically conducting material.

119. (Canceled)

120. (Previously presented) The method of claim 83, wherein the self-assembly monolayer is positioned on the working electrode.

121. (Previously presented) The method of claim 83, wherein the reference electrode is arranged about the perimeter of the working electrode such that a portion of the working electrode is positioned between different regions of the reference electrode.

122. (Previously presented) The method of claim 83, wherein the counter electrode is arranged about the perimeter of the working electrode such that a portion of the working electrode is positioned between different regions of the reference electrode.

123. (Currently amended) The method of claim 83, ~~further comprising:~~ wherein employing the measured current to determine the presence or quantity of a target analyte in the sample includes employing the potential in combination with the measured current to determine the presence or quantity of the target analyte in the sample.

124. (Previously presented) The method of claim 83, further comprising:

forming the self-assembly monolayer on at least one of the electrodes before positioning the sample on the sensor.

125. (Previously presented) The method of claim 120, further comprising:

forming the self-assembly monolayer on the working electrode before positioning the sample on the sensor.

126. (Previously presented) The method of claim 83, wherein the self-assembly monolayer is positioned on the working electrode, the counter electrode, and the reference electrode.

127. (Previously presented) The method of claim 126, further comprising:

forming the self-assembly monolayer on the working electrode, the counter electrode, and the reference electrode before positioning the sample on the sensor.

128. (Canceled)

129. (Previously presented) The method of claim 83, wherein the molecules that make up the self-assembly monolayer each have the same molecular structure.

130. (Previously presented) The method of claim 83, wherein the self-assembly monolayer is positioned on the reference electrode.